

# **SRAM®**

## Level/Level T



Service Manual



**SRAM®**

GEN.0000000005124 Rev A  
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# SRAM LLC WARRANTY

## EXTENT OF LIMITED WARRANTY

Except as otherwise set forth herein, SRAM warrants its products to be free from defects in materials or workmanship for a period of two years after original purchase. This warranty only applies to the original owner and is not transferable. Claims under this warranty must be made through the retailer where the bicycle or the SRAM component was purchased. Original proof of purchase is required. **Except as described herein, SRAM makes no other warranties, guaranties, or representations of any type (express or implied), and all warranties (including any implied warranties of reasonable care, merchantability, or fitness for a particular purpose) are hereby disclaimed.**

## LOCAL LAW

This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state (USA), from province to province (Canada), and from country to country elsewhere in the world.

To the extent that this warranty statement is inconsistent with the local law, this warranty shall be deemed modified to be consistent with such law, under such local law, certain disclaimers and limitations of this warranty statement may apply to the customer. For example, some states in the United States of America, as well as some governments outside of the United States (including provinces in Canada) may:

- a. Preclude the disclaimers and limitations of this warranty statement from limiting the statutory rights of the consumer (e.g. United Kingdom).
- b. Otherwise restrict the ability of a manufacturer to enforce such disclaimers or limitations.

## For Australian customers:

This SRAM limited warranty is provided in Australia by SRAM LLC, 1000 W. Fulton Market, 4th Floor, Chicago, IL, 60607, USA. To make a warranty claim please contact the retailer from whom you purchased this SRAM product. Alternatively, you may make a claim by contacting SRAM Australia, 6 Marco Court, Rowville 3178, Australia. For valid claims SRAM will, at its option, either repair or replace your SRAM product. Any expenses incurred in making the warranty claim are your responsibility. The benefits given by this warranty are additional to other rights and remedies that you may have under laws relating to our products. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

## LIMITATIONS OF LIABILITY

To the extent allowed by local law, except for the obligations specifically set forth in this warranty statement, in no event shall SRAM or its third party suppliers be liable for direct, indirect, special, incidental, or consequential damages.

## LIMITATIONS OF WARRANTY

This warranty does not apply to products that have been incorrectly installed and/or adjusted according to the respective SRAM user manual. The SRAM user manuals can be found online at [sram.com](http://sram.com), [rockshox.com](http://rockshox.com), [avidbike.com](http://avidbike.com), [truvativ.com](http://truvativ.com), or [zipp.com](http://zipp.com).

This warranty does not apply to damage to the product caused by a crash, impact, abuse of the product, non-compliance with manufacturers specifications of usage or any other circumstances in which the product has been subjected to forces or loads beyond its design.

This warranty does not apply when the product has been modified, including, but not limited to any attempt to open or repair any electronic and electronic related components, including the motor, controller, battery packs, wiring harnesses, switches, and chargers.

This warranty does not apply when the serial number or production code has been deliberately altered, defaced or removed.

This warranty does not apply to normal wear and tear. Wear and tear parts are subject to damage as a result of normal use, failure to service according to SRAM recommendations and/or riding or installation in conditions or applications other than recommended.

## Wear and tear parts are identified as:

- |   |  |                          |                      |
|---|--|--------------------------|----------------------|
| • Dust seals                                  | • Stripped threads/bolts (aluminium, titanium, magnesium or steel) | • Handlebar grips        | • Transmission gears |
| • Bushings                                    | • Brake sleeves  | • Shifter grips          | • Spokes             |
| • Air sealing o-rings                         | • Brake pads   | • Jockey wheels          | • Free hubs          |
| • Glide rings                                 | • Chains   | • Disc brake rotors      | • Aero bar pads      |
| • Rubber moving parts                         | • Sprockets  | • Wheel braking surfaces | • Corrosion          |
| • Foam rings                                  | • Cassettes  | • Bottomout pads         | • Tools              |
| • Rear shock mounting hardware and main seals | • Shifter and brake cables (inner and outer)                       | • Bearings               | • Motors             |
| • Upper tubes (stanchions)                    |  | • Bearing races          | • Batteries          |
|   |  | • Pawls                  |                      |

**Notwithstanding anything else set forth herein**, the battery pack and charger warranty does not include damage from power surges, use of improper charger, improper maintenance, or such other misuse.

This warranty shall not cover damages caused by the use of parts of different manufacturers.

This warranty shall not cover damages caused by the use of parts that are not compatible, suitable and/or authorised by SRAM for use with SRAM components.

This warranty shall not cover damages resulting from commercial (rental) use.

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# **SAFETY FIRST!**

We care about YOU. Please, always wear your safety glasses and protective gloves when servicing SRAM products.

Protect yourself! Wear your safety gear!

## Brake Service Overview

SRAM brake systems need to be serviced periodically to optimize braking function. If brake fluid is leaking from any area of the brake there may be damage or wear and tear to the internal moving parts. If the system has been contaminated with the wrong fluid there may be damage to all rubber and plastic internal parts. If your brake was damaged in a crash there may be damage to the lever blade, pushrod, and housing assemblies. Inspect and replace these parts to restore proper brake function.

Only Level and Level T calipers may be serviced. Level and Level T levers are not serviceable. Only clean Level and Level T levers with soap and water.

**Your product's appearance may differ from the pictures contained in this publication.**

## SAFETY INSTRUCTIONS

- Servicing your brakes removes all of the brake fluid from the system. You must bleed your brakes after you service the brake caliper.
- Always wear safety glasses and nitrile gloves when working with DOT fluid.
- Place an oil pan on the floor where you will be working on the brake.
- Used DOT fluid should be recycled or disposed of in accordance to local and federal regulations.
- Never pour DOT fluid down a sewage or drainage system or into the ground or a body of water.
- DOT fluids will damage painted surfaces. If any fluid comes in contact with a painted surface (i.e. your frame) or printing on the brakes, wipe it off immediately and clean it with isopropyl alcohol or water. Damage to painted and/or printed surfaces by DOT fluid is not covered under warranty.
- Do not allow any brake fluid to come in contact with the brake pads. If this occurs, the pads are contaminated and must be replaced.
- For best results, use only SRAM High-Performance DOT 5.1 brake fluid. If SRAM brake fluid is not available, only use DOT 5.1 or 4 brake fluid.
- **Do not use mineral oil or DOT 5 fluid.**

## NOTICE

Do not use mineral oil or DOT 5 fluid. Do not use tools, rags, or syringes that are contaminated with mineral oil or DOT 5 fluid. Using contaminated materials will result in permanent damage to the seals and reduce braking performance.

### **'Sticky' and/or slow brake pad return excessive lever throw**

If your brakes feel sticky and exhibit slow brake pad return and/or excessive brake lever throw, it may be a result of the pistons sticking in the caliper. Before completely disassembling your caliper, you can try to loosen the sticky piston by performing the following steps:

1. Clamp the bicycle into a bicycle work stand.
2. Remove the wheel from the affected caliper.
3. Squeeze the brake lever several times until the brake pads nearly contact one another.
4. Insert the pad spreader between the brake pads to spread the pads to the full width of the clip.
5. Remove the pad spreader.
6. Repeat steps 3-5.
7. Reinstall the wheel.
8. Squeeze the brake lever several times to position the brake pads to the proper distance from the rotor.
9. Center the caliper on the rotor if necessary.
10. Spin the wheel and check the brake function. The pistons should move freely and there should not be excessive brake lever throw.

If there is no improvement in the brake function, proceed with caliper service.

## Caliper Service

We recommend that you have your SRAM brakes serviced by a qualified bicycle mechanic. Servicing SRAM brakes requires knowledge of brake components as well as the special tools and fluids used for service.

For exploded diagram and part number information, please refer to the Spare Parts Catalog available on our website at [sram.com/service](http://sram.com/service). For order information, please contact your local SRAM distributor or dealer.

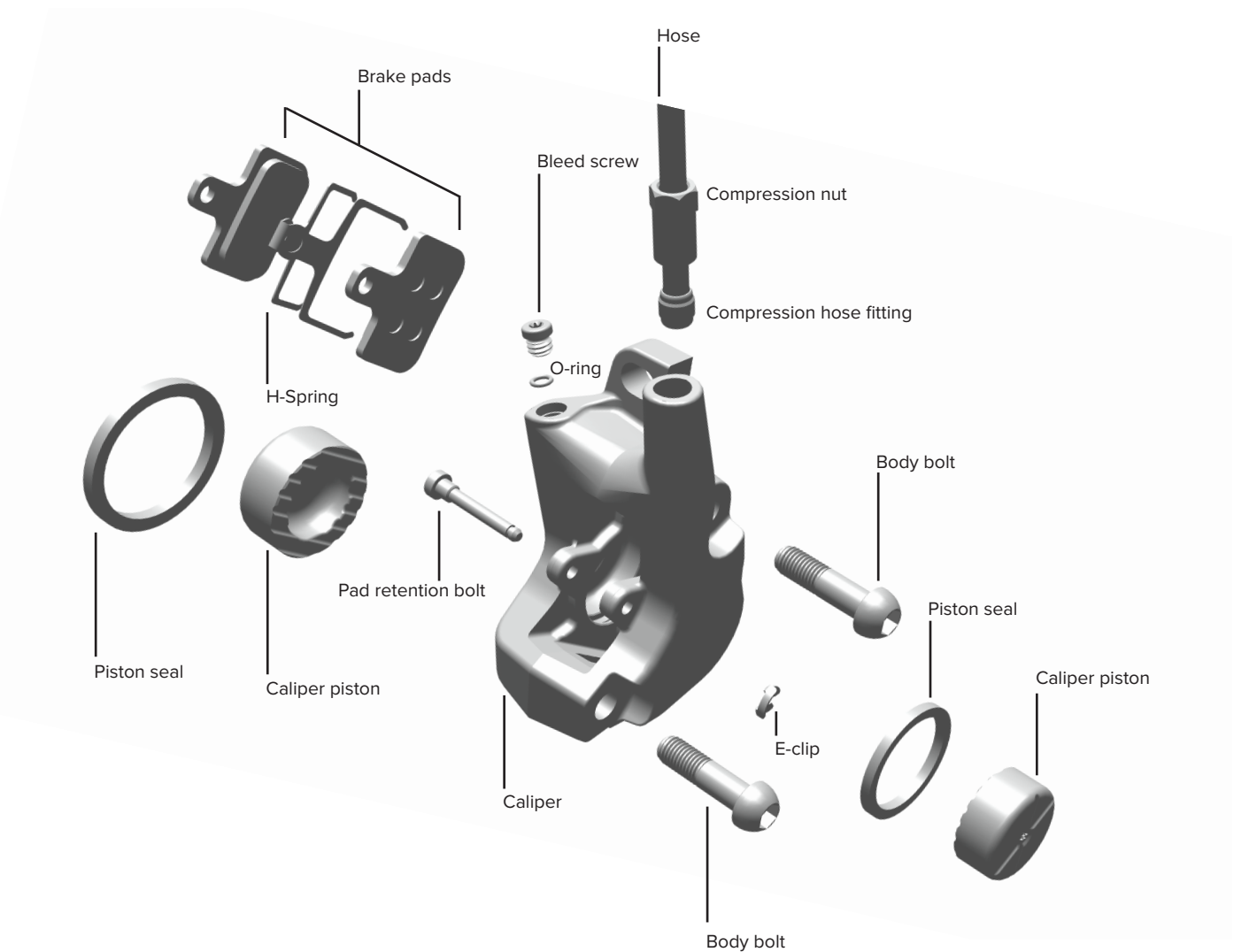
Information contained in this publication is subject to change at any time without prior notice. For the latest technical information, please visit our website at [sram.com/service](http://sram.com/service).

**Your product's appearance may differ from the pictures contained in this publication**

### Parts and Tools Needed for Service

- 8 mm flare nut wrench
- Safety glasses
- Nitrile gloves
- SRAM High-Performance DOT 5.1 Fluid or DOT 4 Fluid or AVID DOT Grease, DOT 5.1 fluid, or 4 compatible grease
- Oil pan
- Rubber tipped blow gun chuck
- Soft rubber or piece of inner tube
- Digital caliper
- Level bleed block
- Torque wrench
- 5 mm hex bit socket
- 2.5 mm and 5 mm hex wrenches
- Sharp pick
- 8 mm open end wrench and crowfoot
- Clean, lint-free rag
- Isopropyl alcohol
- Caliper Piston Kit (includes 2-21mm caliper pistons, seals & o-rings)
- Hydraulic Disc Brake Hose Fitting Kit

### Caliper Exploded View



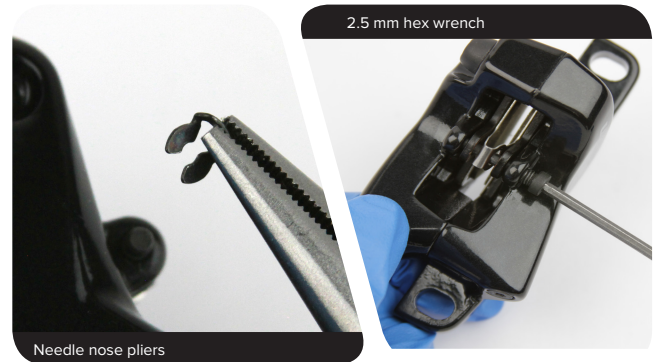
### NOTICE

DOT fluid will damage painted surfaces. If any fluid comes in contact with a painted surface (i.e. your frame) or printing on the brakes, wipe it off immediately and clean it with isopropyl alcohol or water. Damage to painted and/or printed surfaces by DOT fluid is not covered under warranty.

- 1 Use a 5 mm hex wrench to remove the brake caliper from the fork or frame.

Remove the caliper mounting bracket and hardware from the caliper, then set the bracket and hardware aside in the order they were removed.

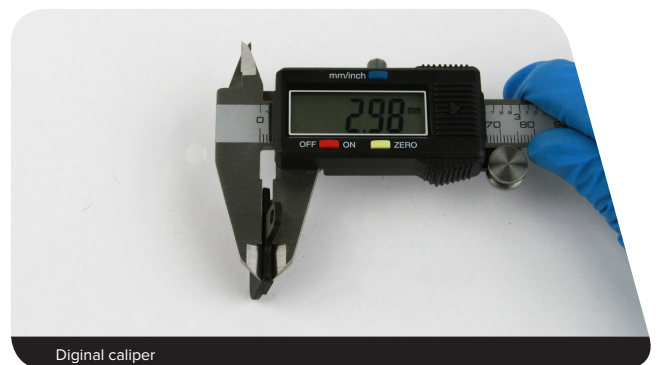
- 2 Remove the E-clip from the pad retention bolt.  
Remove the pad pin from the caliper.



- 3 Remove the brake pads from of the caliper.

### NOTICE

Brake pads must be replaced if the total thickness of the backing plate and pad friction material is less than 3 mm.





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- 1 Remove the compression nut  
Pull the brake hose and fitting from the caliper hose port.  
*Hold the caliper over a container to catch any fluid that may leak.*



- 2 Remove the caliper body bolts.



- 3 Separate the caliper body halves.



- 4** Place each caliper half, piston side down, on a soft rubber mat or a small section of inner tube on a flat surface.

Insert a rubber-tipped blow gun chuck nozzle into the caliper hose port.

#### **⚠ CAUTION - EYE HAZARD**

Wear safety glasses.

The caliper piston may dislodge rapidly from the caliper, which can lead to bodily injury or damage to the parts. Point the caliper piston toward a rubber surface before forcing air into the caliper.

Use the air chuck to force air into the caliper hose port and dislodge the piston from the caliper.

Remove the piston from the caliper.



Rubber

Rubber-tipped blow gun chuck nozzle

- 5** Pierce the piston seal with a pick, then remove the piston seal from inside both the inboard and outboard half of the caliper body and install a new seal inside each caliper body half.

#### **NOTICE**

Do not scratch the seal gland with a pick. Scratches can result in a slow fluid leak when the brake is applied.



- 6** Spray isopropyl alcohol on inside and outside of the caliper halves and both of your gloves, and clean them with a rag.



## Caliper Piston Installation

### NOTICE

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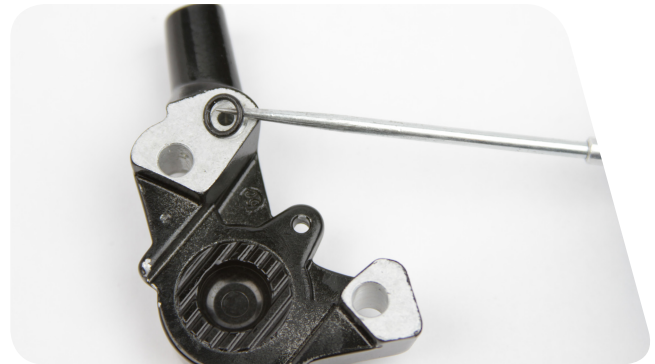
- 1 Inspect the caliper pistons for damage and replace the pistons if necessary.

Apply a small amount of SRAM High-Performance DOT 5.1 fluid to each piston. Install a piston into each of the caliper body halves so that the piston grooves are aligned as shown.

*You can also use Avid DOT Grease or DOT 5.1 or 4 compatible grease as a lubricant.*



- 2 Remove the caliper o-ring from the inboard caliper half then install a new o-ring.



- 3 Align the caliper body halves, then install each body bolt. Tighten each body bolt to 9.8-11.8 N-m (87-104 in-lb).



- 4 Tighten the compression nut and hose fitting to 9.8-11.8 N·m (87-104 in-lb).

*Install a crowfoot socket at 90 degrees to the torque wrench to ensure an accurate torque value.*



- 5 Insert the Level bleed block into the caliper.

**NOTICE**

You will need to bleed your brakes before reinstalling the brake pads.



- 6 Spray isopropyl alcohol on the caliper and clean it with a rag.



**NOTICE**

Overhauling the caliper removes all of the fluid from the caliper. You must bleed the brakes for optimal performance. For brake bleed, brake hose shortening, and brake pad replacement instructions, visit [www.sram.com/service](http://www.sram.com/service).



“We will revolutionize the relationship that our users have with SRAM products, cultivating a bond between the rider and bicycle. Our technical communication will be delivered in innovative and exciting ways, with deliberation and accuracy that inspires loyalty and trust across the globe.”

-SRAM TechCom Vision Statement



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